SITE: Florida Phosphate
BREAK: 17.8
OTHER: v.16

Radiological And Occupational Health
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October 9, 1978

TO: Donald R. Guthrie, P.E., Sanitary Engineer

FROM: Harlan W. Keaton, Public Health Physicist II

SUBJECT: FIELD SURVEY DRUMMOND PROPERTY

The Drummond property was divided into two sections because of the difference in intended use of the two sections, with Section A primarily used for commerical development and Section B residential. Section A and B are so designated on the enclosed map.

On Section A the Gamma measurements ranged from a low of 8 microroengtens per hour (uR/hr) to a high of 35 uR/hr with a mean Gamma level of approximately 15 uR/hr. Average background is about 5 to 7 uR/hr. We would have liked to have taken more readings in the interior of this section but were unable to do so due to the dense undergrowth and ditch between the railroad tracks and Section A.

On Section B there were 223 readings taken with a low of 5 uR/hr and a high of 40 uR/hr having a mean of 20 uR/hr.

From the land use map Section A appears to be devoted entirely to commercial structures, taking into consideration the average Gamma level and the amount of time spent in a structure of the commercial type we feel that special care in development or construction would not be warranted. Although once the land has been cleared and reclaimed it would be wise to have it surveyed again at the building site to make sure that large amounts of high level materials have not been concentrated there.

There were areas of Section B that were unaccessible due to dense growth or swamp but because of the large area that was covered and the number of readings taken in this section we feel that the mean Gamma level is representative of the entire section. If this average Gamma level is compared to the results of the U.S. Environmental Protection Agency's and Florida Department of Health and Rehabilitative Services study

of homes built on reclaimed land we estimate that approximately 33% of all homes of the slab on grade type built in this section will be above the .03 working level standard. * This being the case the developer may wish to consider other types of construction. I have enclosed an E.P.A. Evaluation of such construction but I must point out that none of these methods have been studied in the field.

The above considerations for Section B are assuming an average Gamma level of 20 uR/hr. This level could be higher or lower depending on how the land is reclaimed. The problem lies in the fact that there are large quantities of higher activity slimes lying in the low areas of this section. If these slimes are excavated to develop the lakes as shown in the master land use plan and distributed over the surrounding property they could in effect raise the radiation levels for these areas. To sum the remarks on Section B it appears that a large percentage of the homes built there will be above .03 working level. It is also quite probable that redistribution of the slimes located in this section will increase the average Gamma level thus further increasing the probability that a home will be above .03 working levels. As in Section A if would be wise to have this area surveyed again after it has been reclaimed and house locations staked out. If there are any further questions concerning this matter please do not hesitate to contact me.

* This is the proposed Federal Guideline that should be printed in the Federal Register sometime before the end of this year. As for the meaning of the term working level it can be found in the glossary of the enclosed booklet.

HWK/rch

encl.